+

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute	for Form 1449A/PTO	Application Number	10/790,959
		Filing Date	March 1, 2004
INFORMATIO	ON DISCLOSURE \BY APPLICANT	First Named Inventor	Takemori TAKAYAMA
16	w)	Group Art Unit	1742
ANC 0 5 JODE		Examiner Name	Deborah YEE
STOATRAD	1 of 1	Attorney Docket Number	03733/HG
	OTHER DOCUMENTS	- NON-PATENT LITERATU	RE DOCUMENTS
Examiner Cit Initials' No.	e Include name of author page(s), volume-issu	(in CAPITAL LETTERS), title of e number(s), publisher, city and	article, title of item, date, /or country where published T ²
170	"HEAT TREATMENT OF STEEL	" (5th Edition), Edited by: The uzen Co., Ltd., March 15, 1985,	Iron and Steel Institute of
ושו	1		
	·		
,			
,	·		
			·
		•	
			·
		0 Dete	2 11 - 2 /
Examiner Signature	1) though Te	Date Considered	7-14-06

DATE MAILED: August 2, 2006

^{*} EXAMINER: Initial if document considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Place a check here if English translation is attached.

^{*}ENGLISH-LANGUAGE TRANSLATION ENCLOSED

→ Please type a plus sign (+) inside this box ¬ U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE 10/790,959 Application Number Substitute for Form 1449A/PTO March 1, 2004 Filed INFORMATION DISCLOSURE Takemori TAKAYAMA First Named Inventor DAPEMENT BY APPLICANT 1742 Group Art Unit Deborah YEE 2 8 2005 Examiner Name 2 03773/HG 1 Attorney Docket Number of U.S. PATENT DOCUMENTS Kind Name of Patentee or Publication Relevant Cite Exam. Document Number Code² Applicant Date MM-DD-YYYY Portion No1 Inits* 2004/0256029 A1 TAKAYAMA et al. 12-23-2004 07-02-2002 В2 TAKAYAMA et al. 6,413,328 07-10-2001 6,258,179 **B1** TAKAYAMA et al. OCHI et al. 03-10-1998 5,725,690 Α 02-12-1991 4,992,111 YAMADA et al. FOREIGN PATENT DOCUMENTS Cit Relevant Kind Name of Patentee or Publication Exam T^6 Code⁵ Date MM-DD-YYYY Portion Document Number4 Applicant No¹ Offc3 Inits' 01-09-1996 MURAI JP 8-3629 Α JP 62-218542 Α NAKAJIMA et al. 09-25-1987 06-26-2002 ASANO et al. JP 2002-180183 Α 04-28-1997 Α EGUCHI et al. JP 9-111405 07-09-1990 TODA JΡ 2-175836 Α

Date

Considered

Examiner

Signature

EXAMINER: Initial if document considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See kinds of U.S. Patent Documents. ¹ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁴ Place a check here if English translation is attached.

PTO/SB/08B (08-00)
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

								_	
Substitu	te fo	r Form	. 144:	9A/PTO	Applicati	on Number	10/790,959		
		_ 	-		Filing Da	te	March 1, 2004		
INFORMA					First Nam	ed Inventor	Takemori TAKAYAMA		
					Group Art	Unit	1742		
					Examiner	Name	Deborah YEE	-	
Sheet		2	of	2	Attorney	Docket Number	03773/HG		
		OTHE	ER D	OCUMENTS	- NON-PA	TENT LITERATO	JRE DOCUMENTS		
Examiner Initials ¹	Cite No.1	Incl pa	ude na	ame of author volume-issu	(in CAPITAL e number(s),	LETTERS), title of publisher, city and	article, title of item, date, d/or country where published	T²	
0		BRICK Transf	et al	., *Structure	and Properti arbon Alloys,	es of Engineering 1 4th Edition, (197	Materials," Martensite 8), pp. 152-154.		
, ,									
							·		
					,		•		
							•		
Examiner		i) 2	ha	rah E	2 0	Date Considered	7-14-06		
Signatur	e	LIII.	. TJ O.	I am	\mathcal{L}	Constdered			

^{*} EXAMINER: Initial if document considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Place a check here if English translation is attached.

			<u></u>	U.S	. Patent and Trademar			IMENT OF COM	MERCE	
Subst	itute	for F	orm 1449A/PTO	Applica	tion Number	10	/790,959			
				Filing	Date	Ma	March 1, 2004			
INFOR	MATI MENT	BA O	isciosure Appetgant	First N	amed Inventor	T.	TAKAYAMA			
		(A	Group A	rt Unit	j-	147			
	•	NOV	0 2 2004 19	Examine	r Name	No	t Yet Assigned	4-6	P	
Sheet	1	(i)	of 0 2	Attorne	y Docket Number	03	773/LH		C	
				.S. PATE	ENT DOCUMENTS			•		
Exam. Inits*	Cite No¹	Docum	ment Number	Kind Code ²	Name of Patentee Applicant	or	Publication Date MM-DD-YYYY	Relevan Portion		
PQ	A	2004	/0035499	A1.	TAKAYAMA et al.		02-26-2004			
, ,										
	·				·					
	ŀ	·								
				"						
		<u> </u>	FOR	EIGN PA	TENT DOCUMENTS		<u></u>			
		1		Kind	Name of Patentee	or	Publication	Relevant		
Exam Inits	Cite No ¹	Offc ³	Document Number	Code ⁵	Applicant		Date MM-DD-YYYY	Portion	Т6	
0	В	JP	03-061348	A	KOMATSU LTD.		03-18-1991		х*	
[j	С	JP	08-073929	A	KOMATSU LTD.		03-19-1996		Х*	
	D	JP	08-104924	A	KOMATSU LTD.		04-23-1996		х*	
	E	JP	2004-076125	A	KOMATSU LTD.		03-11-2004		х*	
*	٠.									
				.			÷ .		`	
		i								
			*English Languag Abstract only	e						
Examin	er		Dobacah	00	Date		7-14-0	i		

Signature UCO6 (W) Considered / 1/9 (Signature) EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

DATE MAILED: October 29, 2004

¹ Unique citation designation number. 2 See kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Place a check here if English translation is attached.

Please	type	а	plus	sign	(+)	inside	this	box	→

+ PTO/SB/08B (08-00)
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute	for Form	1449a/PT	20	Application	n Number	10/790,959			
Substitute !	TOL FOLM		•	Filing Dat	е	March 1, 2004			
INFORMATION STATEMENT BY				First Name	d Inventor	T. TAKAYAMA	т. такауама		
				Group Art	Unit				
•			•	Examiner N	ame	Not Yet Assigned			
Sheet		2 of	2 .	Attorney D	ocket Number	03773/LH			
			OTHER PRIOR	ART - NON-PAT	ENT LITERATURE DO	CUMENTS			
Examiner Initials ¹	Cite No.1	Include page (name of auth s), volume-is	or (in CAPITAL sue number(s),	LETTERS), title of publisher, city a	f article, title of item, date, nd/or country where published	· T²		
D	F	March	1, 2004; In	ent Applicat nventor: T. DDUCING THE	TAKAYAMA et al	10/790,931, filed .; Title: ROLLING ELEMENT			
DY	G	Steel				ted by: The Iron and ruzen Co., Ltd.,			
		,				,			
٠						, ·			
			•						
				-	•				
				,		·			
						·			
				•.	-	·			
Examiner	-	'/)	borch	1.10	Date Considered	7-14-06	<u> </u>		

^{*} EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

DATE MAILED: October 29, 2004

¹ Unique citation designation number. ² Place a check here if English translation is attached.

Pieasc	cype	a bina	Bign (+) :	inside this b)OX -		_ا_ا					O/SB/OBA (08-	
ſ						Τ				demark		fice: U.S. DEPAI /790,959	RIMENT OF CO	MMBRC
Subst	itute	for I	Form 1	449	9A/PTO	Ap	brica	tion :	Number					
					•	Filing Date			Ма	rch 1, 2004				
			ISCLO APPLI			Pi	rst N	amed :	Inventor		Ta	kemori TAKAYA	MA	
						Gr	oup A	rt Un:	Lt		17	42	,	
						Ex	amine	r Name	}		De	borah YEE		
Sheet		1	of		1	At	torne	y Doc)	cet Numbe	er	03	773/HG		
			-		บ.	s.	PATE	INT D	OCUMENT	's				
Exam. Inits*	Cite No ¹	Docu	ment N	umb	er	(Kind Code ²	Name	of Paten Applican		r	Publication Date MM-DD-YYYY	Releva: Portio	
0/		2005	/02473	377	11/154,918	}	A1	TAKA	(AMA et a	al.		11-20-2005		
D'Y		2005	/02417	734	10/391,73	ا ز	A 1	TAKAYAMA et al.				11-3-2005		
21		5,72	5,690		[0/371,73		A	OCHI et al.			3-10-1998			
ון ע		4.99	2,111					YAMAI	A et al.	_	ĺ	2-12-1991		
OA			-	757	10/391,73	ا نـ3	A1	TAKA				3-11-2004		
04			,		[0/5/11/5	"		2,40.			ļ	3-11-2004		
1		ł												
-		<u>. </u>			FORE	IGI	N PA	TENT	DOCUMEN	TS			· · · · · · · · · · · · · · · · · · ·	
Exam Inits	Cite No'	Offe'	Docum	nent	Number4		Kind Code ⁵	Name	of Patent Applicant		r	Publication Date MM-DD-YYYY	Relevant Portion	T ⁶
							l							
						ı								
			ļ				ļ				1			
						Į	- 1							
						ĺ								
					í						Į		 	
Examin	er		1101	}	a U	$\frac{1}{0}$	\overline{Q}	Dat	.e		<u>ー</u> つ	-/11 - 61-		

Signature Considered / M Considered / M Considered - EXAMINER: Initial if document considered, whether or not citation is in conformance with MFEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

DATE MAILED: JUNE 30, 2006

^{*}Unique citation designation number. * See kinds of U.S. Patent Documents. *Enter Office that issued the document, by the two-letter code (WIFO Standard ST.3). *Por Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. *Kind of document by the appropriate symbols as indicated on the document under WIFO Standard ST. 16 if possible. *Place a check here if English translation is attached.

Please type a plus sign (+) inside this	box →
stitute for Form 1449A/PTO	Appli

PTO/SB/08A (08-00)

ė			•			U.S. Patent and Tradema	rk Office: U.S. DEPA	RTMENT OF	OMMERC	
Substi	tute	for Fo	orm 1449	A/PTO .	Applicat	tion Number				
					Filing I	Date	Herewith			
			SCLOSU PPLICA		First Na	amed Inventor	TAKAYAMA			
					Group A	rt Unit	1742			
					Examine	r Name	4.00			
Sheet	1		of	2	Attorney	y Docket Number	04005/LH			
				<u> </u>	I.S. PATI	ENT DOCUMENTS	04003/LR	· · · · · ·		
	1	T			Kind	Name of Patentee or	Dubli antin Data	Relev	ant	
Rxam. Inits*	Cite No ¹	Docum	ent Numbe	r	Code ²	Applicant	Publication Date	Porti		
		İ		•						
	İ									
•		İ	·							
	<u> </u>	<u> </u>		FO	REIGN PA	TENT DOCUMENTS				
Exam Inits'	Cite No ¹	Offe	Document	Number4	Kind Code ⁵	Name of Patentee or Applicant	Publication Date MM-DD-YYYY	Relevant Portion	T ⁶	
<u>0</u>		JP	61-009	555	A	TAKAYAMA ET AL	01-17-1986		Х*	
1 '		JР	64-004	459	. A	ITABE ET AL	01-09-1989		х*	
		JР	10-176	219	A	TAKAYAMA ET AL	06-30-1998		х*	
		JP	11-117	059	A	TAKAYAMA ET AL	04-27-1999		Х*	
		JP	11-222		A	TAKAYAMA ET AL	08-17-1999		Х*	
		JP ·	2000-2		A	HAMASAKA ET AL	07-25-2000		X*	
-		JP	2003-0		A	TAKAYAMA ET AL	01-29-2003		X*	
$ \!$		JP	2003-3		A	TAKAYAMA	11-19-2002		X*	
. 7			*Engli attach	sh abstrac ed.	t					
Examin Signat			Deh	orah ?	e	Date Considered	7-14-0	حا		

DATE MAILED: March 1, 2004

EXAMINER: Initial it reference considered, whether or not citation is in conformance with NPEP 509. Draw line through distinct it not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. See kinds of U.S. Patent Documents. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Place a check here if English translation is attached.

		٠		U.S. Patent and Trader	mark Office: U.S. DEPARTMENT OF	COMMERC		
Substitu	te for	Form 1449	A/PTO	Application Number				
			,	Filing Date	Herewith			
		DISCLOSU APPLICA		First Named Inventor	ТАКАУАМА			
				Group Art Unit				
				Examiner Name				
Sheet	2	of	2	Attorney Docket Number	03773/LH			
	<u> </u>	OTHER 1	PRIOR ART	- NON-PATENT LITERATU	RE DOCUMENTS			
Examiner Initials ¹	Cite No.1	Include page(s	name of author), volume-iss	or (in CAPITAL LETTERS), title of sue number(s), publisher, city and	article, title of item, date, d/or country where published	T²		
01		TEMPERED STE	al; ON RELAT	TIONSHIP BETWEEN HALF VALUE BREADT als Vol. 26, No.280, P26 issued by 5, 19 7 7	TH AND HARDNESS OF QUENCHED- y Society of Materials, Japan,			

PTO/SB/08B (08-00)

Date

Considered

7-14-06

Please type a plus sign (+) inside this box \rightarrow

DATE MAILED: March 1, 2004

Examiner

Signature

[•] BXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 Place a check here if English translation is attached.